

arch will be relieved and the lateral deviation diminished. By the displacement forward the leverage action of the tendo Achillis will be more advantageous. By the downward displacement the short plantar muscles produce an increase in the convexity of the plantar arch. The correction of the valgus position is obtained by the displacement of the tuberosity inward. A few months are necessary before the patient can walk or stand. The wearing of a brace or splint after the operation will not be necessary as the improvement is spontaneous.

Two Cases of Gallstone Ileus; Operation; Recovery.—NEWBOLT (*Lancet*, 1908, clxxv, 797) says that the diagnosis was not made in either of his two cases before operation. The fact that the obstruction is a mechanical blocking of the bowel and that those symptoms depending upon a direct interference with the vascular supply are absent, may help us in the diagnosis. In both cases the stones were found in the small intestine not far from the ileocecal valve. They were both nearly of the same size. The first measured two inches in length, one and one-half inches in diameter, and three and one-half inches in circumference; and the second was only one-quarter of an inch smaller in each dimension. Each stone had a constriction at the end nearest the duodenum, and in one case the stone was fractured at this constriction. What impressed Newbold most was the unfamiliar type of the symptoms of obstruction in both cases. Some days after the beginning of the attack, neither of the patients looked as ill as one would have expected and the soft though distended abdomen with the absence of tenderness on pressure, was most marked. A stringent cross examination failed to elicit any history of gallstones even after operation.

Notes on 679 Operations Performed under Spinal Anesthesia (Cocaine or Stovaine) by Tuffier's Method.—SABADINI (*Lancet*, clxxv, 1213) says that the early contributions of Corning, Tuffier, and others had established the fact that the introduction of cocaine into the spinal column produced widespread anesthesia without circulatory or respiratory disturbances, and that cocaine determined no grave changes in contact with the nerve elements. Sabadini's 679 operations included a large variety of laparotomies and operations on the limbs. They were always below the level of the umbilicus, the anesthesia extending upward as a general rule to within two fingers' breadth below the breasts. Yet he removed three mammary cancers by this method and did a resection of the elbow. The dose in these 4 cases was 3 cg. for the first 3, and 4 cg. for the fourth. To insure diffusion of the cocaine the patient was kept in the Trendelenberg position for ten minutes after the injection, but anesthesia was incomplete in each case and chloroform was added. He has not repeated the experiment. The number of failures was about 11 per cent., and they were probably due to idiosyncracies or to the fact that the anesthetic dose varies with the individual. The subjective phenomena occurring between five and fifteen minutes after injection are such as pallor, sweating, nausea, vomiting, and occasionally but rarely marked apprehension. Epileptoid tremors of the lower limbs and fatal syncope may develop. The frequency of nausea and vomiting has been reduced 50 per cent. by giving the patients their breakfast before making the injection. Sabadini has had no case of

fatal syncope. He recognizes the following contra-indications to this method of anesthesia: Advanced cachexia, bilateral nephritis with scanty urinary secretion, myocarditis, pericarditis with effusion, and non-compensated cardiac affections. These absolutely prohibit the use of cocaine. The only two untoward consequences at a later period have been headache and rachialgia. All accidents that occur are to be ascribed to a defective technique and not to the method per se. The only real drawback to the method is that in certain nervous and alcoholic subjects the anesthesia is not complete. It may be employed in patients from ten to fifteen years of age up to extreme old age. Although stovaine was not given a satisfactory trial, on the whole the advantages appear to be in its favor.

A New Method of Sterilizing the Skin for Operations.—GROSSISCH (*Zent. f. Chir.*, 1908, xxxv, 1289) has had a large experience in the treatment of wounds resulting from accidents. These are frequently difficult to render aseptic, especially when they involve the hairy part of the scalp, neck, axilla, or scrotum, or the fingers and toes. In his first case Grossisch painted the surface of a broad lacerated wound and the surrounding skin with the tincture of iodine without any washing. He sutured the wound completely, coated the sutures with the iodine and applied the usual sterile dressing. Healing by first intention followed. This method has since been repeated many times with the same result, provided there was already no preceding sign of infection of the wound. When a preliminary cleansing of the wound and surrounding skin by soap and water was made, the healing was not so favorable and points of suppuration developed here and there. This method was later applied to small operations, the hair being first shaved dry, and the field of operation then covered with the tincture of iodine. Perfect healing by first intention was usually obtained. Microscopic examination of a piece of skin treated by iodine showed that the iodine had penetrated into all the clefts and spaces and lymph radicles. This capacity for penetration is due to the alcohol present. Water or watery solutions penetrate only incompletely and superficially. Grossisch has used this method in operations for free inguinal and femoral herniæ and incarcerated inguinal. All healed without any disturbance. The method has also been employed successfully in other major operations. The same scrupulous care must be observed in cleansing the hands, instruments, and dressings, as in operations by the usual methods.

Compensatory Re-arrangement of the Space in the Chest Cavity after Amputation of One Lung, together with Observations on Operative Mediastinal Emphysema.—FRIEDERICH (*Archiv f. klin. Chir.*, 1908, lxxxvii, 647) says that mediastinal emphysema may become a fatal complication after operation on the lung, especially when the operation invades the lung near the hilus and when the opened bronchus has not been closed properly. Seven days after amputation in the pneumatic cabinet of the lung of a dog, when the recovery was progressing favorably, the dog suddenly began to fail and to develop a subcutaneous emphysema over the chest. This progressed rapidly and extensively, and the dog died in six or seven hours. Postmortem examination showed beside the general subcutaneous emphysema, interstitial emphysema along

the deep muscles of the neck, enormous emphysema of the mediastinum, pericardium, and the whole retropleural, peripleural, and retroperitoneal tissue. At the right hilus there was found a loosened ligature, which had been applied to a divided bronchus, and this bronchus had retracted inward into the mediastinal space. Opening of the chest in the pneumatic cabinet, with resulting removal of the air, might have overcome the indirect effect of the mediastinal emphysema on the circulation and respiration. An almost analogous case is reported by Friderich, following removal of the left lung in a woman, but in this case the autopsy did not reveal the source of the escaping air. A septic pleurisy also developed in this case. In those animals in which the amputation of the lung had been done and the ligature had been effective in maintaining the closure of the bronchus, and the asepsis was good, the operation was quickly and effectively carried out, and no symptoms of inflammation developed. The animals lived, were active, had good appetites, and increased in weight. This shows that the remaining organs adapt themselves to the altered relations rendered necessary by the vacant space left by the removal of the lung. This is brought about by a change in position of the soft tissues and a sinking in of the ribs on the side operated on, so that the space vacated by the removed lung becomes obliterated. This is well shown by the illustrations of specimens from dogs operated on and later killed. Absolute healing may thus follow the removal of one lung. The defect becomes filled, by the displacement of the heart and mediastinum toward the affected side, by vicarious emphysema of the remaining lung, by ascent of the diaphragm, and by flattening of the ribs on the affected side.

THERAPEUTICS.

UNDER THE CHARGE OF

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Vaccine Therapy and Therapeutic Immunization.—WRIGHT (*Practitioner*, 1908, vi, 565) reviews the conclusions which have been established by his own results in vaccine therapy and auto-immunization and by those of his fellow workers. These conclusions are the following: (1) Vaccine therapy is applicable not only to localized infections, but also to general septicemic diseases. (2) Spontaneous auto-inoculations occur not only in general septicemic diseases, but also in cases with localized diseases in which the focus of infection has attained to a certain development. (3) Auto-inoculation can, in the case of localized disease, be artificially induced by massage, by active and passive movements, and by active and passive hyperemia. (4) Such artificially induced auto-inoculations can be turned to useful account in diagnosis. (5) The success of certain empirical methods of treatment,

notably the Bier method of passive congestion, is probably largely dependent upon the fact that it induces adequate and not excessive auto-inoculations. Wright further considers the possibility of achieving the desired improvement apart from the determination of the opsonic index. There is associated with this point the question as to whether the technique used for the determination of the opsonic index gives accurate and useful results. He is of the opinion that injections of bacterial vaccines should not be undertaken entirely in the dark. He believes that both vaccines and the human organism are too variable and inconstant factors to allow even an approximation to the fixing of a definite dose applicable to all conditions. In dealing with vaccines, one can never leave out of consideration the difference in different strains of the same organism. Some minute difference in the mode of preparation, or perhaps some change occurring spontaneously during preservation, might affect the strength of the vaccine products. But a greater factor exists in the different effect produced by the same dose of vaccine in the healthy individual as compared with that in the infected patients, and in the cases of severe infection as compared with the result in those of light infection. Thus, when it is difficult to predict the result of one inoculation, it is much more difficult to predict the result of a series of inoculations. In a few individual cases a proper dose may be arrived at which will give uniform results. This is true in strictly isolated local infections, such as a furuncle. When one adheres to a given dose, there is a possibility of two errors. The doses might be too small, and have little or no effect, or, on the other hand, they might excite a marked negative phase and so do much harm. In taking up the suggestion that the clinical symptoms of the patient may furnish a guide, he considers four classes of cases. There are cases of localized infections which the clinical observer can see for himself and learn of every change which occurs in the focus of infection. The most typical examples of these are furunculosis, sycosis, and suppurating acne which are usually due to staphylococci. In the same class there are the streptococcic infections of the skin and subcutaneous tissue, which take the form of impetigo, serous furuncles, erysipelas, and lymphangitis. He also includes in this class infections of any organ in which by examination of secretions or excretions one may obtain an idea of the inflammatory process.

With the subjective symptoms as a guide in such cases, and with such objective signs as we can elicit, we may judge whether the dose has been moderate, small, or excessive. An improvement for a brief period followed by an early relapse would indicate too small a dose. If the patient grew immediately worse, we would assume an excessive dose. He points out some errors, however, which may result if too great dependence is put on clinical symptoms: (a) The clinical symptoms may convey quite an erroneous idea of the real conditions of the local infection. This is true in mixed infections, in which incidentally the secondary infection may increase in extent and obscure the clinical picture. (b) The clinical symptoms of the local infection may give an entirely wrong idea of the general infection. (c) The anti-bacterial power of the blood of a patient in good, general condition cannot be assumed to be at all uniform.

There are cases of strictly localized infection in which the process is